

Letter and enclosure from Eliza Symonds Bell to Alexander Graham Bell, February 16, 1875, with transcript

Tutelo Heights, Brantford, Ont., Can., February 16, 75. (Prof. A. Graham Bell, Care of Gardiner G. Hubbard Esq., 711 Fourteenth Street, Washington, D. C.- U. S.) My dear Aleck,

Yours of the 12th, and 13th, were received yesterday, and we pray and trust you are getting safely over your difficulties without injury to your health. It is one comfort to reflect that you are backed by powerful friends. Last week Papa sent the English Telegraphic document you asked for, as well as his own testimony as to the length of time he knew of your having spoken of the idea to him. These together with a private letter, were enclosed to you, under cover to Mr. Hubbard as you directed. C's marriage is fixed for the first of March, Papa's birth-day. We were anxious for the end of March, so as to give you a chance of being present, but it would not suit poor George. The weather is so severe and so many stoppages of trains, in consequence of the snow, it would not be wise to bring you through at all hazards. The two wish the ceremony to be strictly private, in the church, at 8 o'clock in the morning!!! And we wish it to be in our own drawing-room with the two families present, we think it will be the latter She is now at Aunt's, making her wedding dress, but even 2 they do not know the exact time, so if you write to any of them, don't allude to it. Papa and I feel very dull about it. By the way, he is going somewhere far off, on the 24th, to read. I wish he was not. Uncle has not returned yet, been blocked up on the road somewhere. The thermometer has been about zero, often many degrees below, for the last three weeks and more. Enclosed are some scraps that will interest you; among them you will see an account of Miss Dempster's wedding. Your cousins were in

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the church and they say the bride and bridesmaids, entered the church with bare necks and arms and the temperature at zero. Papa is waiting. Dear love from all.

Your affectionate Mother, E. G. Bell.

A Mr. Ross, residing in England, claims to have invented a machine for carburetting air so economically that it shall supersede coal as fuel and coal-gas as an illuminator. If his invention answers, we can put off measuring our coal-fields, at any rate for another "geological period." For the supply of rock-oil—which is what Mr. Ross relies on—seems inexhaustible.

An interesting phenomenon is now observed in Cadunk, Lily and Lake ponds at Southington, Conn. Decomposition of vegetable matter on the bottom is producing carburetted hydrogen gas, which may be ignited at this season by applying a match at holes made in the ice.

Process for Toughening Glass

Considerable attention has lately been directed in France to a process invented by De la Basile for strengthening glass so as to render it both hail and fireproof. A sheet of unprepared glass, a quarter of an inch thick, held in a wooden frame, was placed on the floor of a room, and a brass ball weighing about three ounces was let fall on it from a height which was gradually increased until the glass was broken by the shock. It was found that the unprepared glass was broken when the ball fell from a height of ten inches. A sheet of glass only half the thickness, but which had been prepared by the new process, was then placed in the frame, the same weight allowed to fall upon it from a gradually increasing height, but without any effect even when dropped from the ceiling of the room. An experiment to test the resistance of the glass to fire was also made with perfect success; the glass, heated in the flame of a lamp and suddenly immersed in cold water not showing the slightest signs of disturbance.

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Lest one remarkable astronomical event should not afford the *savans* excitement enough, the transit of Venus is to be followed by a total eclipse of the Sun. An important total solar eclipse will occur on the 5th of April next. "Unfortunately," says the *Spectator*, "the path of total shadow lies for the most part on the Indian Ocean, and the totality will last longest at a place in the open sea due south of the Indian Empire. Still, a portion of the line of totality crosses the land, meeting the peninsula of Farther India, close by Tenasserim, and passing Tenasserim, and passing thence over Bangkok, the capital of Siam, to Hue, in Cochin China; after which, skirting the island of Hainan and traversing the Bashee Islands (between Formosa and the largest of the Philippine Islands), the track of totality passes onward to the Pacific, where the shadow leaves the earth. Before reaching Farther India, however, the shadow crosses the group of Islands called the Nicobars, between Sumatra and the Andamans; and it is here that the most favorable places, in an astronomical sense, are to be found for observing the eclipse. For at Kaikul, in the Nicobars, totality will last nearly 4 ½ minutes." The Royal Society and the King of Siam have taken the matter up. The latter has sent a letter to the former, inviting astronomers to visit his capital, offering to erect suitable observatories for the occasion, to entertain the scientific visitors as his own guests, and in fact, making proposals which amount, as the *Times* correctly says, to the "offer of a large subsidy to science." "The Indian Government has also placed a ship at the disposal of observers who may wish to be sent to the Nicobar Islands or the coast of Burmah, and it is considered likely that the Admiralty will have a ship at Singapore ready to take any observers who accept the King of Siam's invitation." Important additions to astronomical knowledge are expected as the result of the projected observations.

Fashionable Marriage in Zion Church.

Zion Presbyterian Church was filled on Tuesday with the fair ladies of Brantford, and a goodly number of our bachelors also, to witness the nuptials of Mr. John Briggs, of Toronto, and Miss Agnes Dempster. Miss Dempster has long and justly been held in the highest esteem by her many friends for her amiability and sweetness of disposition,

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and her readiness at all times to place her musical talents at the disposal of the public. Precisely at noon the wedding party entered the Church, the bride tastefully arrayed in white satin leaning upon the arm of her uncle, James Fullerton, Esq., of Parkhill, and accompanied by her bridesmaids, Misses Lizzie Fullerton, Lena Welsh, Maggie Fullerton and Maggie Builder. The bridegroom was accompanied by Mr. D. H. Bastedo, Mr. George Dempster, Mr. George Harcourt and Mr. Allan Howard, all of Toronto. The bridal party having taken their places within the altar railing, the Rev. Wm. Cochrane, M. A., performed the ceremony. At the close, the marriage register having been signed, the bride left the church leaning on the arm of the bridegroom, and followed by the invited guests, who were entertained at a sumptuous *dejeuner* at the house of the bride's mother, Mrs. Dempster, on Dalhousie street. Among the invited guests were Mrs. Fullerton, (aunt of the bride,) Mrs. Mayberry, of Parkhill, Mr. and Mrs. Trees, of Toronto, Mr. and Mrs. Lees, of Toronto, Mr. and Mrs. Harcourt, of Toronto, Mr. and Mrs. Reid, of Toronto, Mr. and Mrs. Thomas McLean, Mrs. Cochrane, Mr. and Mrs. E. Brophey, Mr. and Mrs. McIntosh, Mr. C. A. Buck, Brantford, Mr. Howard, of Toronto and other friends of the bride and bridegroom. After the *dejeuner*, Mr. Cochrane in a neat speech, conveyed to the happy pair the sincere congratulations of their friends on the festive occasion and their best wishes for their future welfare. He spoke in the highest terms of Mrs. Briggs, as a dutiful daughter and a most consistent and unassuming christian, and was well assured, she would act her part well in her new relation in life. Mr. Briggs replied briefly, but in good taste thanking the many friends present for their good wishes and congratulations. At 2.30 the bride and bridegroom left for Paris, where they took the cars for an extended tour in the States. The presents of the bride were of the most *recherche* and costly description, and testified to the high appreciation in which she was held by her friends in Brantford, Toronto and elsewhere.

Science.

New Theory of the Aurora Borealis .

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In a paper says the *Athenœum* published in the *Astronomische Nachrichten* No. 2010, Herr Groneman advocates the hypothesis that the aurora borealis may be due to meteoric fragments and dust circulating around the sun, which on entering our atmosphere become incandescent by friction, and appear either as shooting stars or an aurora. This cosmical matter is composed principally of magnetic substances, such as iron and nickel; and therefore, when it approaches the earth it is brought under the influence of terrestrial magnetism, and takes the direction of magnetic lines representing the rays of the aurora. The auroral hands occasionally observed perpendicular to the meridian are supposed to result from cosmical particles composed of diamagnetic matter. That such particles exist is proved by a paper in *Poggendorff's Annalen* by A. E. Nordenskiöld, who finds in snow and hail which fall around Stockholm a number of metallic particles, which are attracted by the magnet, and give all the reactions of iron. Snow from icebergs near Parry's Island, in the 80th degree of N. lat., was found to contain similar particles or dust. Nickel, cobalt, phosphoric acid, and carbon were also found. This theory as to the cause of the Aurora occurred as a partial explanation to the present writer some years ago. One strong fact in its favor, which does not appear to be noted by Herr Groneman, is that some of the most brilliant Auroras on record have occurred in the beginning of September, or just after the earth has passed through the August meteor stream, the breath of which is known to be so great that several days are occupied in the earth's passage through it. Perhaps the most celebrated Aurora on record was that of the night of September 1, 1859, which, as seen in Canada, covered the whole heavens like a luminous tent; another very celebrated one was that of September 3, 1839, which was seen as far south as New Orleans in America, and Italy in Europe. Herr Groneman's theory, however, supplies only a partial explanation, for there can be no doubt, we think, that there is some connection between Auroras and the Solar spots. On the whole the most probable hypothesis appears to us to be this: The cosmic dust of meteor streams, and the debris of comets tails supply the material to the upper regions of the earth's atmosphere; the magnetic power or polarity of the earth arranges this material round the two terrestrial magnetic poles, North and South; and the actinic or magnetic power of the rays of the sun, during those periods of unusual solar

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activity of which spots and faculæ are the manifestations, supply the force which urges this material into the brilliant activity of Auroral display.

Encke's Comet .

Three weeks back we noted that astronomers with large telescopes were on the look out for this comet, now on its expected return to perihelion about the 12th of April next. We have now to announce that on the 26th ult., it was sighted in the gigantic 26 inch refractor at the Washington Observatory by Prof. Holden and Paymaster Tuttle, U. S. Navy. It was extremely faint, with no nucleus and no well defined boundary, but seemed to be from one to two minutes of arc in diameter. The comet is a very small one at best, and when sighted was about 182,000,000 miles from the earth. The fact that it was seen at all under such circumstances is convincing proof of the wonderful power of modern telescopes. We have already mentioned that it will approach nearest to the earth on the 4th of May, when its distance will be less than 50,000,000 miles.

New Minor Planet .

A new minor planet, the first this year, was discovered on the 13th ult., by M. Paul Henry, at Paris. It will reckon as No. 141.